

MILLCREEK TOWNSHIP SEWER AUTHORITY

MILLCREEK MUNICIPAL BUILDING
3608 WEST 26TH STREET
ERIE, PENNSYLVANIA 16506

Phone (814) 835-6721

Fax (814) 835-6615

April 13, 2004

Mr. Anthony c. Oprendeck, Compliance Specialist
Water Management
PA Dept. of Environmental Protection
230 Chestnut Street
Meadville PA 16335-3481

RE: Kearsarge Area Sanitary Sewer Overflow

Dear Mr. Oprendeck:

On March 20, 2004 the Millcreek Township Operations Superintendent used his best judgment to prevent the flooding of basements and opened the Kearsarge bypass for a period of 3 hours and 26 minutes, resulting in an estimated 231,000 gallons of sewage being discharged. An engineering report and chart has been attached for documentation. No other discharges occurred.

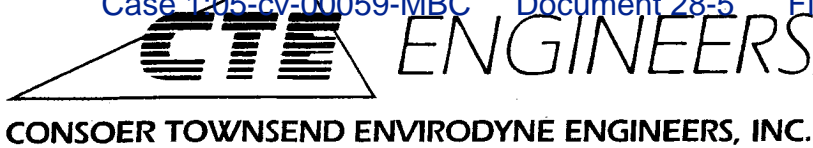
In accordance with the most recent COA, we have enclosed a check for \$2,500.00 made payable to the "Commonwealth of Pennsylvania Clean Water Fund".

Very truly yours,
Millcreek Township Sewer Authority

By: _____
George W. Riedesel, P.E., Manager

Cc: Authority Board
Township Supervisors
William Steff, S.T.S.A.

MSA-MT 3003



155 West 8th Street

March 24, 2004

Erie, Pennsylvania 16501

Mr. George Riedesel, P.E.
Millcreek Township Sewer Authority
3608 West 26th Street
Erie, PA 16506

Phone: (814) 453 4394

Dear Mr. Riedesel:

Fax: (814) 455 6596

We wish to outline the sequence of events that occurred at the Kearsarge pump station on Saturday, March 20, 2004, which resulted in a bypass for a period of 3.5 hours. There had been a substantial accumulation of snow remaining on the ground when the rainfall started in the early morning hours. The writer made two visits to the station, one before noon and one after 1:00 p.m. to observe the station operation. The light to moderate rain stopped between 12:30 and 1:00 p.m. Flows at the station were observed to be approximately 2,000 gpm on the meter at noon and 2,150 gpm at 1:00 p.m. Pumps were running at 65% at noon and at 70% at 1:00 p.m. (both pumps #1 and #2 were running). At 2:45 p.m. heavier rain started with thunder. The rain continued with similar intensity until approximately 3:30 p.m. when moderated with just a light rain at 4:00 p.m. At that time the writer was contacted by the Millcreek Township police who relayed a message from Dick Bridger, your maintenance supervisor, that the pumps at the pump station did not have sufficient capacity to keep up with the influent flows. The writer went to the station arriving at 4:15 p.m. and along with Mr. Bridger continued to monitor the operation.

The wet well level was at the second step above the lower landing when the writer arrived and it continued to rise as the influent flows exceeded the pumping capacities (pumps #1, #2, and #3 were operating). The wet well level rose until 5:14 p.m. when the bypass was opened. At that time the water level had passed the second landing and was approximately three steps above that landing.

Pumping levels recorded on the station meter rose from approximately 3,200 gpm to 3,800 gpm (it should be noted that drawdown tests completed on March 10th had shown this newer meter installed in February to be reading low). The wet well began to lower and continued to slowly drawdown for the next two hours. During that time the writer observed the wet well levels and

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noted the times along with the flows with the intention of later judging how much the influent flows had exceeded the pumps' capacities. Once the wet well level had reached approximately 2-1/2 ft. above the normal station operating level, the writer departed. At that time three Millcreek employees including Mr. Gary Snyder were on site to monitor the station operation (Mr. Bridger had left). When the writer returned at approximately 9:40 p.m. five Millcreek employees were on site, two of which had been addressing problems elsewhere in the system. Mr. Snyder advised the writer that he closed the bypass at 8:40 p.m. and the station continued to run utilizing only pumps #1 and #2 except for approximately 25 minutes when pump #3 was required to maintain the wet well level immediately after closing the bypass.

The circular chart recording the flows interpreted by the meter had malfunctioned. For approximately two hours the chart moved slowly and as a result the data in that time frame was recorded within an approximate 20 minute interval on the chart. The chart did not begin moving again until levels dropped close to prestorm conditions. At that time the meter itself began to malfunction because the signal was lost most likely due to entrained air and it was not discovered that the meter had stopped moving until sometime after that at about the time the bypass was closed. At that time Mr. Snyder moved the chart to the proper time. Thus, on the enclosed chart, the time frame before and up to the beginning of the bypass is correct and the time following the closing of the bypass is likewise correct. We have enclosed a separate chart that we have constructed based first of all on the writer's observation and discussions with Mr. Snyder.

For approximately one hour after the flows first returned to normal and the bypass was closed, we do not have a good estimate of the volume of flows that went through the bypass. We have estimated those values at the same level as were calculated during the observed flow periods of the bypass to be conservative. Those flows averaged 3,650 by the meter reading.

It also must be understood that the flows recorded, those of the meter, were low as determined by the tests previously referenced. The flows found on the charts have been adjusted upward. Flows of 3,000 actually have an adjusted rate of 3,750, flows of 3,650 are adjusted to 4,550 gpm.

The amount of flow that continued to pass forward to the Erie WWTP after opening the bypass was calculated based upon the head observed on the system. First the bypass was only opened 2-1/2 turns to limit the amount of



CONSOER TOWNSEND ENVIRODYNE ENGINEERS, INC.

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flow that would discharge. The system pressures were noted to drop from 50 lbs. to 45.5 psi. From previous operations 45.5 psi system is equivalent to an adjusted flow of 3,450 gpm being passed through the force main to the City sewers. At a pump station flow of 4,550 gpm during the time of bypass the difference of 1,100 gpm would equal the amount of bypass. If that volume of bypass was estimated to have continued for the entire 3-1/2 hours (which as stated before is conservative because of the lack of pressure information during the one-hour period when flows had returned to normal at this station) the resulting volume of bypass equals 231,000 gallons.

We hope this discussion provides sufficient information for you to report to the PA DEP.

Very truly yours,

CONSOER TOWNSEND ENVIRODYNE ENGINEERS, INC.

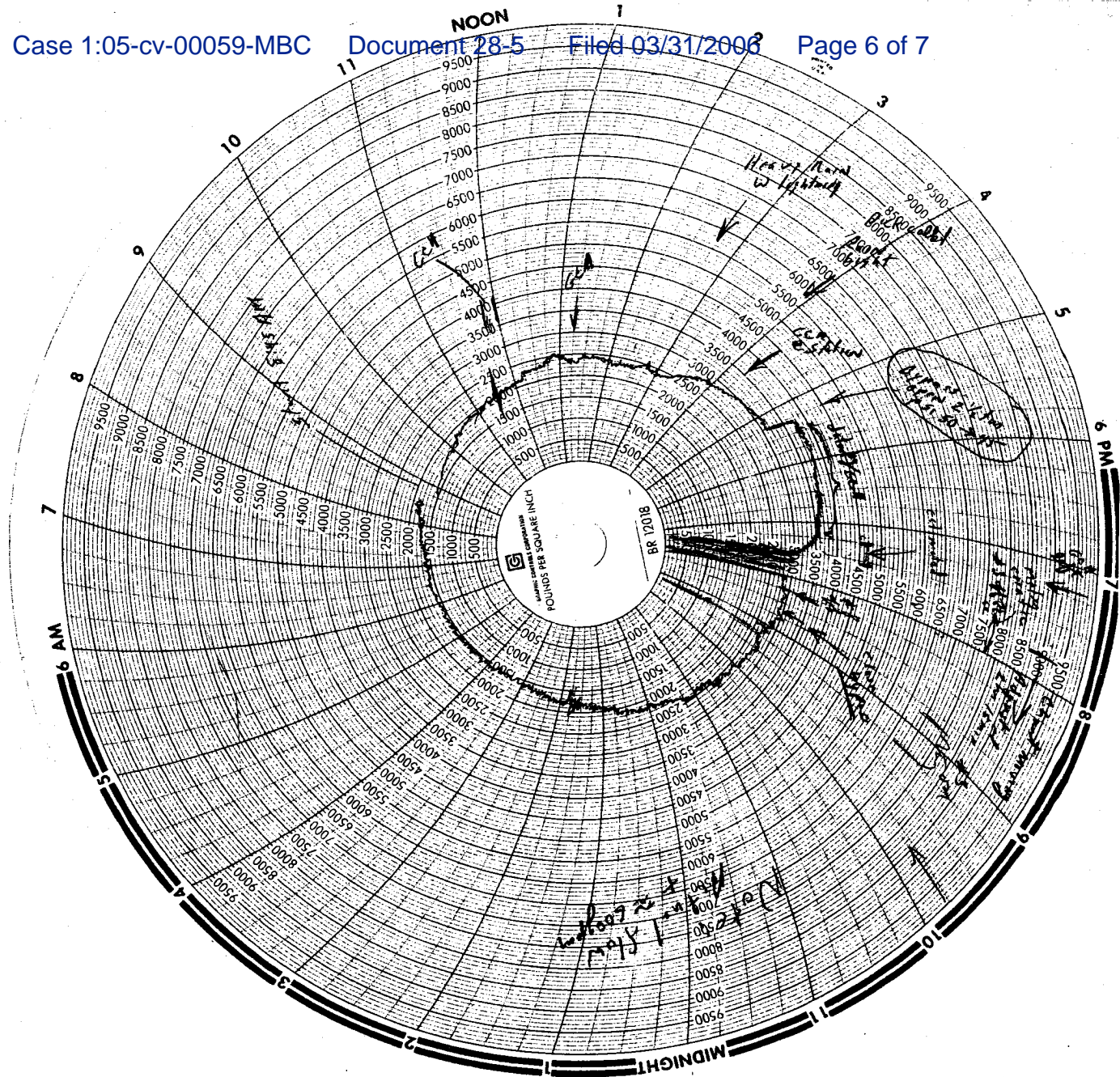
A handwritten signature in black ink, appearing to read "Gerald C. Allender", is written over a horizontal line.

Gerald C. Allender, P.E.

Project Manager

GCA:lb





3/20/04 Reconstructed
Chart

From the desk
of
Gary J. Snyder
Assistant Operations Superintendent

March 20, 2004

To: Mr. George Riedesel

Re: Kearsarge bypass

As per your instructions, the following entities were contacted on the order of Dick Bridger in conjunction with the bypass at Kearsarge station:

- 1) DEP – 5:15 p.m. – call was returned at 5:25**
- 2) Erie County Health Dept – 5:20 p.m. – no response**
- 3) Millcreek Information Center – 5:22 p.m. – call was returned at 5:30 by Bob Mitchell, who was going to notify PEMA at that time**

At 8:30 p.m. Mr. Mitchell called for an update in order to notify PEMA. The bypass was shut down at 8:40 p.m., and Mr. Mitchell was contacted to forward the information to PEMA. An engineer from CT&E will be in contact with your office regarding the rate and total amount of bypass.



Gary J. Snyder

Cc: Dick Bridger